

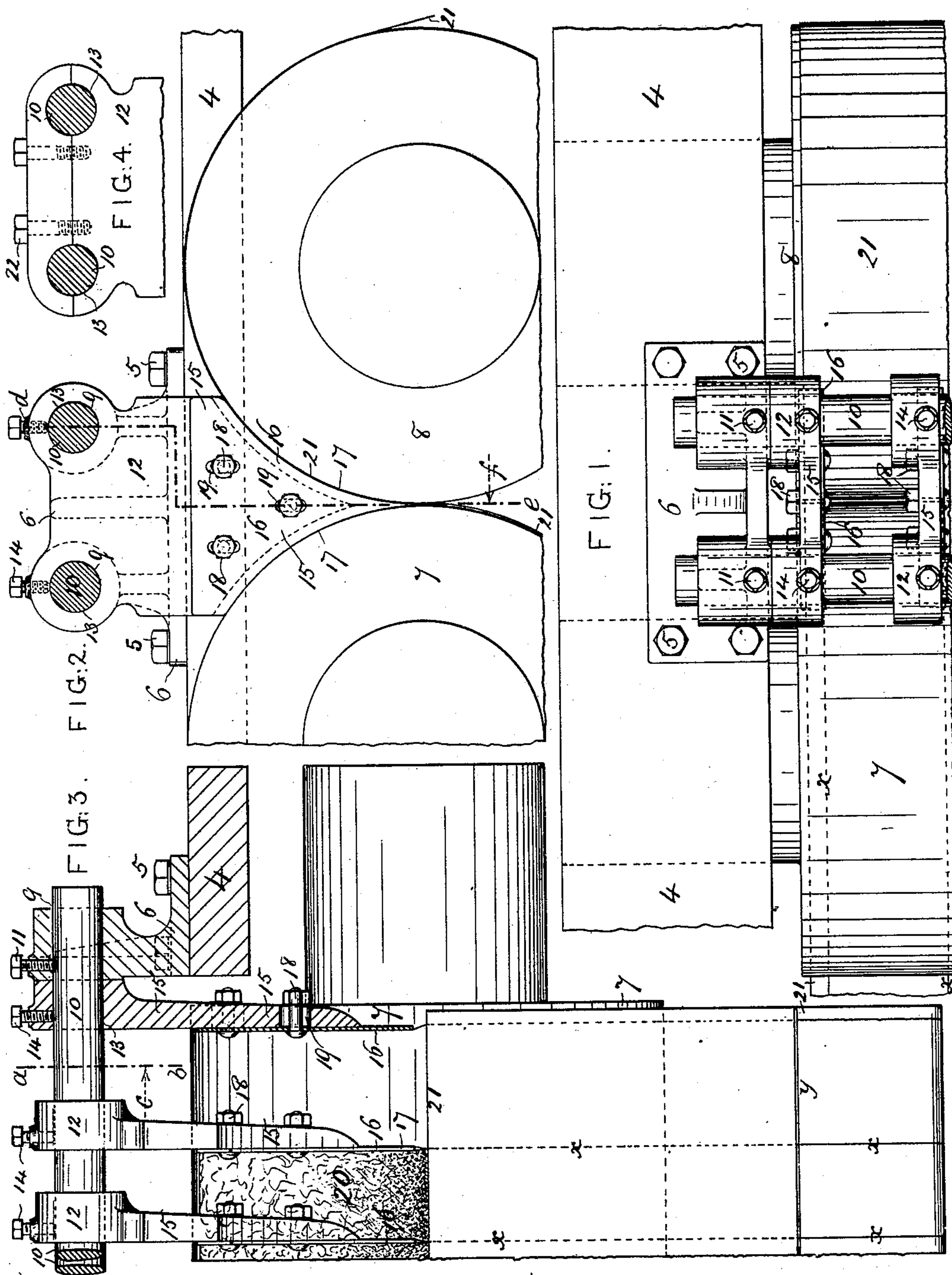
(No Model.)

T. MITCHELL.

DEVICE FOR MANUFACTURING LINOLEUM FLOOR CLOTH.

No. 482,948.

Patented Sept. 20, 1892.



WITNESSES.

*Alfred Rawlin.*  
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# UNITED STATES PATENT OFFICE.

THOMAS MITCHELL, OF WIMBLEDON, ENGLAND.

## DEVICE FOR MANUFACTURING LINOLEUM FLOOR-CLOTH.

SPECIFICATION forming part of Letters Patent No. 482,948, dated September 20, 1892.

Application filed June 27, 1892. Serial No. 438,123. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS MITCHELL, of Wimbledon, in the county of Surrey, England, have invented certain Improved Devices for  
5 Manufacturing Linoleum Floor - Cloth, of which the following is a specification.

This invention relates to a development of the invention described in the specification of Letters Patent No. 467,378, granted to me  
10 on the 19th day of January, 1892.

The object of the aforesaid invention is to obtain in the manner and by the means described in such specification variously-colored stripe-patterned linoleum or like floor-cloths  
15 in which the pattern is continuous through the substance of the linoleum or like material, and is consequently indelible and not liable to partial or complete obliteration under varying wear to which surface-printed and like  
20 floor-coverings are necessarily subject.

In carrying out the aforesaid invention the linoleum or like material is prepared in a plastic condition in a usual manner, but in such varying colors and relative quantities as  
25 may be required to produce the intended stripe pattern and desired quantity of floor-cloth, and the patterning of the floor-cloth is effected simultaneously with the manufacture thereof, substantially in the manner and by  
30 the means referred to in said specification.

The object of the present invention is to obtain a like result—a variously-colored stripe-patterned linoleum or like floor-cloth in which the pattern is continuous through the linoleum or like material and in which the patterning of the floor-cloth is effected simultaneously with the manufacture thereof, substantially in the manner aforesaid—but by  
35 the improved means hereinafter referred to.

The accompanying drawings illustrate sufficient of a calendering-machine (in which the calender-rolls are both arranged in the same horizontal plane) to illustrate the present improvements.

Figure 1 is a partial plan view. Fig. 2 is a sectional elevation on the plane indicated by the line *a b*, Fig. 3, looking in the direction of the arrow *c*, without showing the calender-rolls in section. Fig. 3 is a sectional elevation on the planes indicated by the line *d e*,  
40 50

Fig. 2, looking in the direction of the arrow *f*; and Fig. 4 is a partial elevation of a modification.

On the top of each of the usual side frames 4 of the machine I bolt, as at 5, or otherwise 55 secure permanently or detachably, as may be required, a head-stock 6, preferably formed of cast-iron, securing the two head-stocks on the two opposite side frames 4 exactly opposite to each other, with their centers coincident with a vertical plane passing through the gateway between the usual calender-rolls 7 8. Each such head-stock is bored with two through-holes 9, adapted to locate and support two guide-rods 10, preferably formed of 65 wrought-iron, which are fitted accurately to the head-stocks 6, and are secured in the holes 9 therein by set-nuts 11 or otherwise in any suitable manner. The guide-rods 10 are horizontally disposed parallel with each other and 70 with the axes of the calender-rolls and at a sufficient distance apart to insure rigidity to the adjustable heads hereinafter referred to, which they support, and a sufficiency of space to permit of the feeding of the linoleum or 75 like material between them. The guide-rods 10 mutually support a series of any required number of adjustable and reversible heads 12, preferably formed of cast-iron, each of which is bored with two holes 13, easily but 80 truly fitting said guide-rods, so as to insure parallelism of movement and rigidity of support of said heads 12. Each of said heads 12 can by means of set-nuts 14 or the like be rigidly and rapidly secured in any desired position 85 relatively to any other of said heads along the guide-rods, so as to vary as may be required the distances between them and the relative widths of the adjacent stripes of the linoleum fabric to be produced. Each of the 90 adjustable heads 12 is also formed with a depending flange or web 15 of sufficient strength and rigidity to prevent any lateral displacement due to the crowding backward of the linoleum dough 20 while being calendered into 95 the backing fabric 21. (*Vide* Fig. 3.) Each flange or web 15 is shaped approximately to the contour of the opposing calender-rolls. (*Vide* Fig. 2.) To each of such depending webs is fitted an adjustable division-plate 16, pref- 100



erably formed of steel, the edges 17 of which are turned exactly to the contour of said opposing calender-rolls, against which they truly fit, leaving only a sufficient clearance for the passage of the backing fabric 21, and extend as far as possible into the passage or gateway between such rolls. (*Vide* Fig. 2.) Each division-plate 16 is secured to the depending part 15 of its adjustable head 12 by bolts and nuts 18, which engage with slots 19, formed in said depending part, and permit of any required vertical adjustment of the plate. By the aforesaid means I obtain an absolutely true fitting of the division-plates 16 against the calender-rolls and the backing fabric 21, together with the rigidity necessary to prevent any lateral displacement of the division-plates, whereby evenness in the width of the adjacent stripes in the product with parallelism in and trueness of the lines of the meeting edges thereof (indicated by the dotted lines *x* in Figs. 1 and 3) are obtained. I also by such means obtain a greater facility of speedier and more accurate adjustment or removal and replacement of the division-plates.

Either or both of the guide-rods 10 may be made flat-sided or of a squared or other polygonal formation, the heads 6, into which they fit and in which they are rigidly held, and the adjustable heads 12, which fit on them, being in such event formed with through-holes 9 13, respectively, of a corresponding formation.

In lieu of the heads 6 12 being cast entire with through-holes 9 13, they may each be made in upper and lower parts (*vide* Fig. 4) adapted to fit about the rods 10 and to meet in the plane in which the axes of such rods are situated, the upper part being made as a cap

and secured to the lower part by screw-bolts 22, with the rods 10 between the parts.

In Fig. 3 the bottom end of the stripe-patterned fabric produced is shown as turned backward at *y* to show the striped side.

In adapting the improved means to a calendering-machine in which the calender-rolls are both arranged in the same vertical plane substantially the same mechanism to that above referred to would be used, but in such case would be arranged relatively to the gateway between the rolls, so that the feed of the material might be horizontal toward such gateway or inclined toward the same, or vertical and gradually curving toward such gateway, as might be most convenient in the particular machine to which the improved mechanism would be applied.

I claim as my invention—

The combination, with the rolls of a calendering-machine, between which backing for the linoleum material passes, of opposite rigidly-located head-stocks 6, two parallel guide-rods 10, rigidly supported thereby, and a series of adjustable reversible heads 12, each provided with means for securing it where desired to be located on the guide-rods and with an adjustable and removable division-plate 16, accurately fitting the contour of the opposite calender-rolls with a sufficient clearance for the backing fabric, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS MITCHELL.

Witnesses:

JOHN LEDDER,  
ARTHUR W. WILLIAMS.